

## ***Disclaimer***

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## ***Minimum Requirements***

### ***Personal Computer***

- Pentium 133 MHz
- 16 MB RAM / Preferred 32 MB RAM
- 14" Monitor / Preferred 17" Monitor
- Windows 95 or Windows NT 4.0

### ***Printer***

- Color
- 300 dpi

### ***Software***

- ArcView 3.0a
- ArcView Spatial Analyst Extension 1.0a (Not required - Limited Functionality/No Hot-Spot Analysis)
- ArcView Dialog Editor Extension 1.0 (Not required – For Application Development Only)
- Spatial Crime Analysis System - Free Distribution (<http://www.usdoj.gov/criminal/gis>)

### ***Geographic Data\****

- Sample geographic data included.

### ***Database\****

- A sample database has been included.

\* Both the spatial data and the crime incidents included in the database are purely fictitious.

# *Spatial Crime Analysis System Application Installation*

## *Install GIS Software*

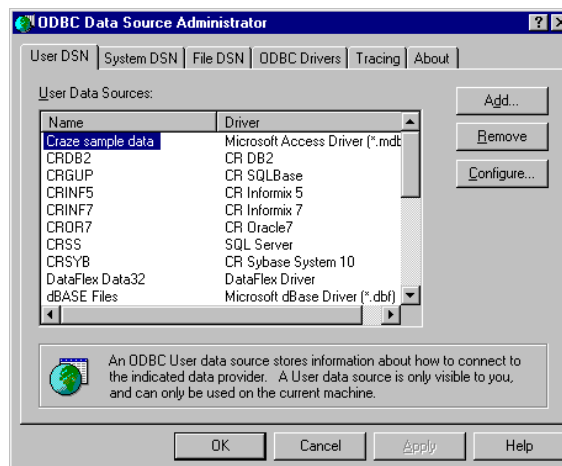
- Install ArcView 3.0a
- Install ArcView Spatial Analyst 1.0a

## *Update Computer System Files*

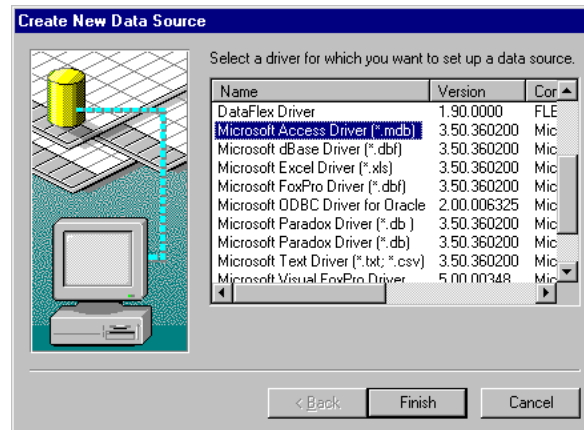
- Install ODBC 3.5 (from Microsoft)
- Download SCAS.EXE
  - Expand SCAS.EXE preferably in the SCAS root directory – C:\SCAS
  - Double-click SCAS.EXE and select the location to expand the files
- Download and run the Visual Basic Setup Disks - VBSETUP.EXE
  - Close all applications then double-click SETUP.EXE in the folder, Disk1. Press the OK button.
  - NOTE: If a message box appears press the ignore button and continue.

## *Configure Computer*

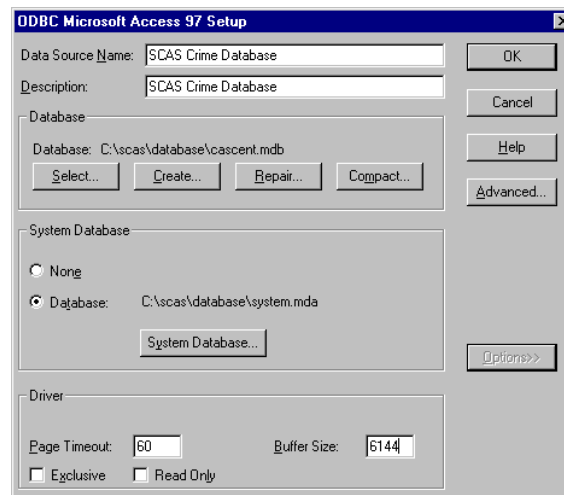
- Configure ODBC (Open Database Connectivity)
  - Go to the Control Panel and Select 32 bit ODBC. The following form will appear.



From the ODBC Data Source Administrator Form go to the User DSN Tab press the **Add...** Button



Select the **Microsoft Access Driver V 3.5x** from the Create New Data Source Form and Press the **Finish** Button



From the ODBC Microsoft Access 97 Setup Form enter **SCAS Crime Database** as the Data Source Name and **SCAS Crime Database** as the Description

To select the database press the **Select...** Button and on the Select Database Form locate **c:\scas\database\cascent.mdb** and Press **OK**

For System Database Select the **Database option button** and Press the **System Database...** Button

On the Select System Database Form locate the file **system.mda** in the **c:\scas\database** folder and Press **OK**

Then Press the **Advanced...** Button type on the ODBC Microsoft Access 97 Form

Type	Value
DefaultDir	C:\scas\database
Driver	MS Access;
FIL	Yes
ImplicitCommitSync	512
MaxBufferSize	0

Value of DefaultDir: C:\scas\database

From the Set Advanced Options Form type **ArcViewTasks** as the Login Name and **base.ball** as the Password and Press the **OK** Button

From the ODBC Microsoft Access 97 Form select the **Options>>** Button and type **60** for the Page Timeout and **8192** as the Buffer Size

Then Press **OK** from the ODBC Microsoft Access 97 Form

Press **OK** from the ODBC Data Source Administrator Form

## Download SCAS Application

### ➤ Run SCASSETUP.EXE

SCASSETUP.EXE is located in the SCAS root directory. It removes the hard-coded paths in several files (scas.apr, scasview.odc, refids.odc, and layouts.odc) and replaces the file path with the location of the user designated SCAS home. When the form appears press the Locate SCAS.APR button. Find the file SCAS.APR on your computer and press the Open button. Then press the Locate ARCVIEW.EXE button. Find the file ARCVIEW.EXE on your computer and press the Open button. Then press the SUBMIT button. Later, a message box will appear asking to modify the file, autoexec.bat. Select Yes. If you select No, then manually add the following lines your autoexec.bat file. Reboot the computer for the changes to take place.

SET SCASHOME=c:\scas	➔ Location of SCAS.APR
SET SCASDB=c:\scas\database\cascent.mdb	➔ Location of CASCENT.MDB
SET SYSDB=c:\scas\database\system.mda	➔ Location of SYSTEM.MDA

### ➤ Create desktop shortcut

- Right mouse click on the computer desktop
- Go to **New** and select **Shortcut**
- At the Create Shortcut form press the **Browse** button
- From the Browse Form locate **scas.apr** in **c:\scas** (You may need to change the Files of Type: From Programs to All Files) and press the **Open** button
- Press the **Next** button from the Create Shortcut Form

- Type **Spatial Crime Analysis System** on the Select a Title for the Program Form and press the **Finish** button
  - To change the icon left mouse click on the SCAS Shortcut then right mouse click and select **Properties**
  - Select the **Shortcut Tab** and Press the **Change Icon...** Button. Select the appropriate icon and press **OK** on the Change Icon Form
  - Press **OK** on the Spatial Crime Analysis System Properties Form
- Shut down the computer and boot up for the changes to take place


## Exercises

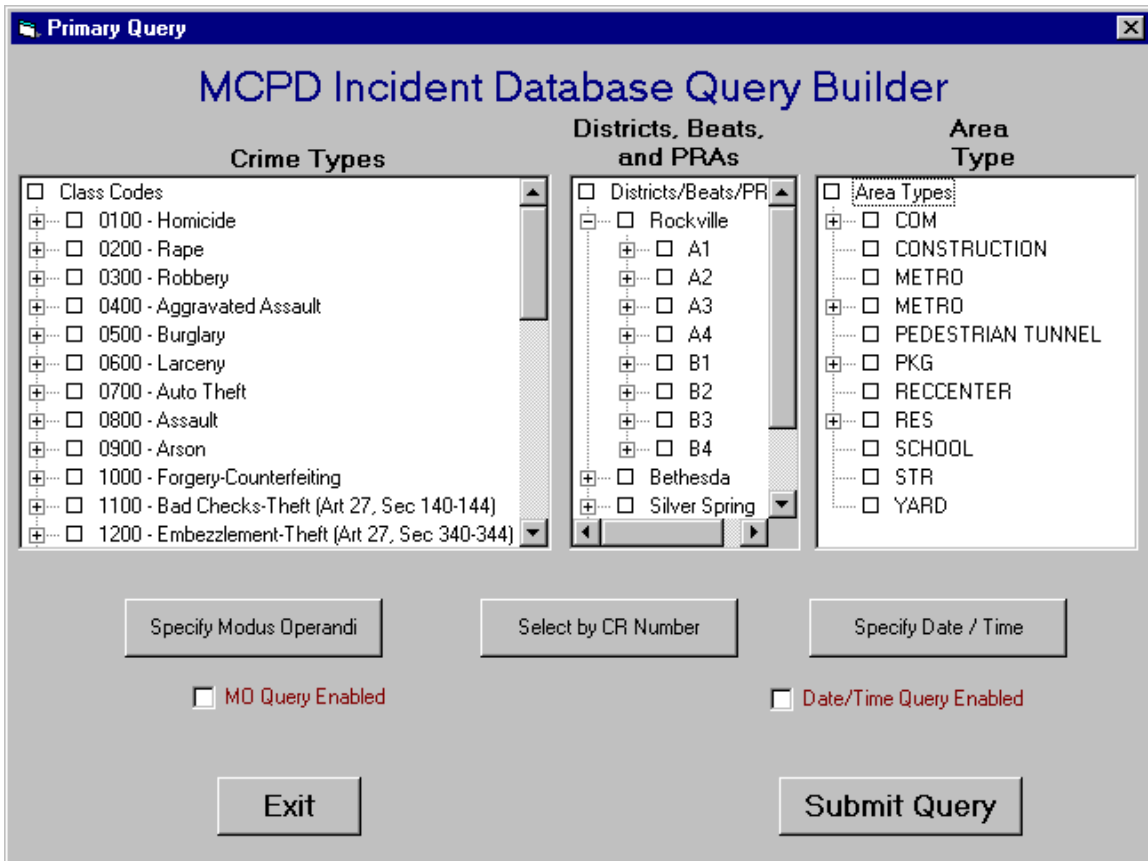
### Start SCAS

1. Double-click the SCAS shortcut on the computer desktop
2. Enter your name at the SCAS Sign-On form and press Enter.

### Perform a query to the SCAS database

Creates a point theme named 'Result' for all the incidents in the database based upon the selections of the 'Primary Query' menu.

1. Open 'SCAS View'
2. Press the 'Primary Query' button. 
3. The following Visual Basic form will appear.



**Primary Query**

**MCPD Incident Database Query Builder**

**Crime Types**

- ☐ Class Codes
- ☐ 0100 - Homicide
- ☐ 0200 - Rape
- ☐ 0300 - Robbery
- ☐ 0400 - Aggravated Assault
- ☐ 0500 - Burglary
- ☐ 0600 - Larceny
- ☐ 0700 - Auto Theft
- ☐ 0800 - Assault
- ☐ 0900 - Arson
- ☐ 1000 - Forgery-Counterfeiting
- ☐ 1100 - Bad Checks-Theft (Art 27, Sec 140-144)
- ☐ 1200 - Embezzlement-Theft (Art 27, Sec 340-344)

**Districts, Beats, and PRAs**

- ☐ Districts/Beats/PR
- ☐ Rockville
  - ☐ A1
  - ☐ A2
  - ☐ A3
  - ☐ A4
  - ☐ B1
  - ☐ B2
  - ☐ B3
  - ☐ B4
- ☐ Bethesda
- ☐ Silver Spring

**Area Type**

- ☐ Area Types
- ☐ COM
- ☐ CONSTRUCTION
- ☐ METRO
- ☐ METRO
- ☐ PEDESTRIAN TUNNEL
- ☐ PKG
- ☐ RECCENTER
- ☐ RES
- ☐ SCHOOL
- ☐ STR
- ☐ YARD

☐ MD Query Enabled ☐ Date/Time Query Enabled

For the Crime Type select '0700' and press Submit Query. This will return all auto theft crime locations in the SCAS Database in a point theme named 'Result' in 'SCAS View'. A message box will appear asking how do you want to summarize your incidents. Select <None> and press the OK button.

### Summarize the crime incidents by an area type (e.g. PRA)

Displays the selected area type theme and counts the number of incidents for each polygon in the shapefile.

1. Open 'SCAS View'
2. Make the 'Result' point theme active
3. Go to the menu choice 'Crime Tools' and select 'Poly Summary'

4. Select PRA -Police Reporting Area



#### **Count the number of incidents at the same location**

Create a graduated point theme

1. Open 'SCAS View'
2. Make 'Result' point theme active
3. Go to the menu choice 'Crime Tools' and select 'Point Count'
4. The following form will appear
5. Summarize by 'Incidents' and select the 'Spots' button



#### **Find Suspects for a selected set of crime incidents**

Create a 'Suspect' point theme locating the suspects for a selected set of incidents in the 'Result' theme

1. Open 'SCAS View'
2. Make the 'Result' point theme active
3. Use the 'Select Feature' tool  to select a few records from point theme.
4. Press the 'Suspect Locations' button 


#### **Show auto theft locations and recoveries for a selected set of crime incidents**

Queries for auto theft recoveries from the 'Result' point theme and creates a 'Auto Recoveries' point theme. Graphic lines are added to mark the auto theft locations to the auto recovery location.

1. Open 'SCAS View'
2. Make the 'Result' point theme active
3. Use the 'Select Feature' tool  to select a few records from point theme.
4. Press the 'Auto Theft Recoveries' button 


#### **Show Incident and Suspect locations**

Creates a 'Suspect' point theme from a

1. Open 'SCAS View'
2. Perform query to SCAS Database via 'Primary Query' form 
3. Perform
4. Make the 'Result' and 'Suspect' point themes active  
To make the second theme active hold the shift key down when you click on the second theme
5. Go to the menu choice 'Crime Tools' and select 'Incident/Suspect Lines'


#### **Make a Layout**



Creates a layout that is ready to be printed

1. Open 'SCAS View'
2. Press the 'Create a Map' button 
3. Follow the message boxes instructions

#### **Create Crime Alert Notices (requires MS Word)**

Creates a MS Word document

1. Open 'SCAS View'
2. Perform query to SCAS Database via 'Primary Query' form 


3. Make the 'Result' point theme active.
4. Use the 'Select Feature' tool  to select a few records from point theme.
5. Press the 'Crime Alert' button 
6. The following form will appear:

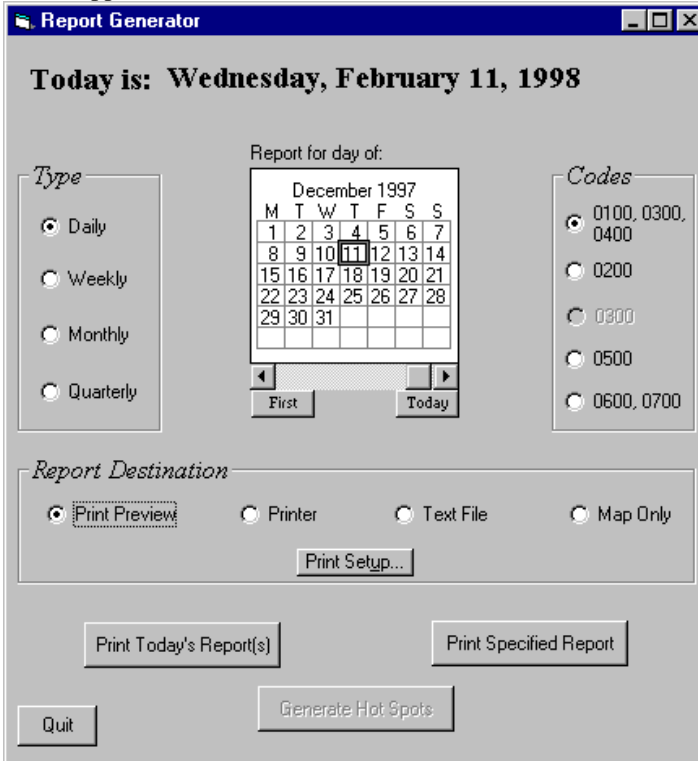


A dialog box titled "Crime Alert" with a close button (X) in the top right corner. It contains four buttons arranged vertically: "Export Data", "Commit Map", "Create Crime Alert", and "Cancel".

7. Press 'Export Data'
8. Go back to 'SCAS View' and add labels to the view (e.g. Add road name and incident number labels)
9. Press 'Commit Map'
10. Press 'Create Crime Alert'
11. Give the new Word document a filename
12. Fill in the details of the Visual Basic form (To, From, District, Crime Alert Number, and Date) and press the 'Continue' button

### Create Daily/Weekly/Monthly/Quarterly Maps and Reports

1. Open 'SCAS View'
2. Press the 'D/W/M Reports' button 
3. The following form will appear:



A dialog box titled "Report Generator" with standard window controls (minimize, maximize, close) in the top right corner. The main content area displays the current date: "Today is: Wednesday, February 11, 1998". Below this, there are three main sections:

- Type:** A group box containing four radio buttons: "Daily" (selected), "Weekly", "Monthly", and "Quarterly".
- Report for day of:** A calendar for December 1997. The date "11" is highlighted. Below the calendar are "First" and "Today" buttons.
- Codes:** A group box containing six radio buttons: "0100, 0300, 0400" (selected), "0200", "0300", "0500", and "0600, 0700".

Below these sections is a **Report Destination** group box with four radio buttons: "Print Preview" (selected), "Printer", "Text File", and "Map Only". A "Print Setup..." button is located below these options.



At the bottom of the dialog are four buttons: "Print Today's Report(s)", "Print Specified Report", "Quit", and "Generate Hot Spots".



4. Select Weekly for Type
5. Select 0500 for Codes
6. Select Print Preview for Report Destination
7. Press the Print Specified Report button
8. A message box will ask if you want to print batch reports. Select No.



### **Create Crime 'Hot Spots' - Requires ESRI ArcView Spatial Analyst Extension**

Creates a grid surface theme called 'Density Grid' that


1. Open 'SCAS View'
2. Query the 'SCAS Database' via 'Primary Query' form 
3. Make the 'Result' point theme active
4. Press the 'Create Grid Surface' button 

### **Create Standard Deviation Rings**

Creates standard deviation ellipses for a selected set or all records in a point theme.

1. Open 'SCAS View'
2. Use the 'Select Feature' tool  to select a few records from point theme.
3. Press the 'Std. Dev. Ellipses' button 

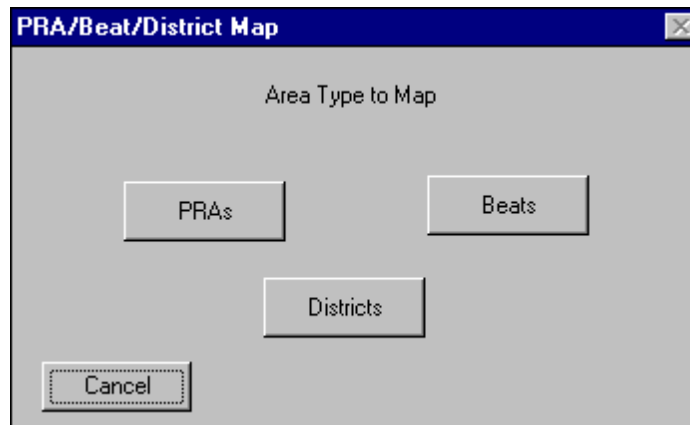
### **Find All Suspects within Standard Deviation Rings**

1. Open 'SCAS View'
2. Create the Standard Deviation Ellipses
3. Press the 'Suspects for Ellipses' button. 
4. Select which ring or rings to display the suspects living in the corresponding ring(s)

### **Create a 'Beat Map'**

Creates a map showing only the selected PRA(s),Beats(s),District(s) with clipped themes.

1. Open 'SCAS View'
2. Perform a query to the crime database via the 'Primary Query' form
3. Select the 'Beat Map' button
4. The following form will appear.



The image shows a dialog box titled "PRA/Beat/District Map". Inside the dialog, there is a label "Area Type to Map". Below this label, there are three buttons: "PRAs", "Beats", and "Districts". At the bottom left of the dialog, there is a "Cancel" button. The dialog box has a standard Windows-style title bar with a close button in the top right corner.

5. Select the 'Beat' button.
6. A message box will a list of beats. Select one beat and press the OK button.
7. Then a second message box will appear asking which themes to clip to the selected beats. Select 'Road' and press the OK button.
8. Another message box will appear. Enter your name and press the OK button.

## Frequently Asked Questions

### ***Why does it take so long to open SCAS.APR?***

If you save the project (SCAS.APR) after you have performed a primary query there are links to the database. When you open the project it will re-establish the links and perform the previous query. Before you save a project remove all links to the 'Result' point theme, including any tables like 'Attribute of Result' and any charts.

### ***What changes do I need to query the database over a network?***

First, re-configure the 32-bit ODBC settings for 'SCAS Crime Database'. Change the location of the database and the system file. Then edit the 'autoexec.bat' and change the SCASDB and SYSDB environmental settings to match the locations of 'cascent.mdb' and 'system.mda'. Save the changes to 'autoexec.bat' and reboot the computer.

### ***How do I find scripts containing a string?***

To search for all the script documents that contain a string make the SCAS project window active. From the Project menu choice select 'Find Scripts Containing String'. At the message box enter the string and press OK. All the Script documents will appear in a message box. Select the document(s) and press the OK button.

### ***How do I hide the Script Doc from the project?***

To avoid having the users modify any of the program's scripts there is an option to change the SCAS User Mode from developer mode to user mode. In user mode the user cannot open any of the scripts in the project. To change the SCAS User mode make the SCAS project window active from the Project menu choice select 'SCAS User Mode'. To return to developer mode you need to enter the password, "base.ball".

### ***Why can't I see all the SCAS GUI buttons?***

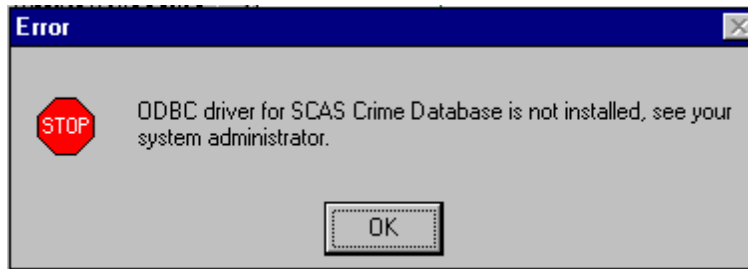
The application was optimized to be displayed at 1024 x 768 resolution. Go to the Control Panel and select Display. Under the settings tab change the desktop area to a higher resolution, if possible. If your display resolution is lower than 1024 x 728 then all the 'missing' buttons will appear at the bottom of the Crime Tools pull-down menu.

### ***How are records geocoded?***

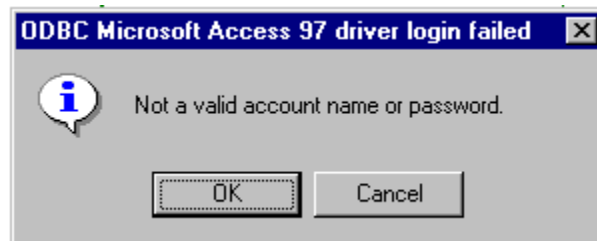
When a 'primary query' is performed it will check the 'Av\_status' field in the table. If there are 'Null' values in the field then the records have never been geocoded. SCAS attempts to geocode the records, if successful it adds the x and y coordinates and marks the 'Av\_status' field as 'T' (for Tiger). If SCAS cannot geocode the record then it marks it as 'U' (for Ungeocoded). FYI- Any records with a 'M' in the 'Av\_status' field mean they have been manually geocoded with the manual or batch geocoder tool in 'SCAS View'.

## Problem Solving

Below are some of the error messages that you may encounter when you install the Spatial Crime Analysis System on your computer. Please follow the suggestions to remedy the situation.



Check the Data Source Name (DSN). Go to the Control Panel and select 32-bit ODBC. The Data Source Name should be 'SCAS Crime Database'. It should be the same as the \_DBName in the file Initglob.ave in the SCASHOME directory.



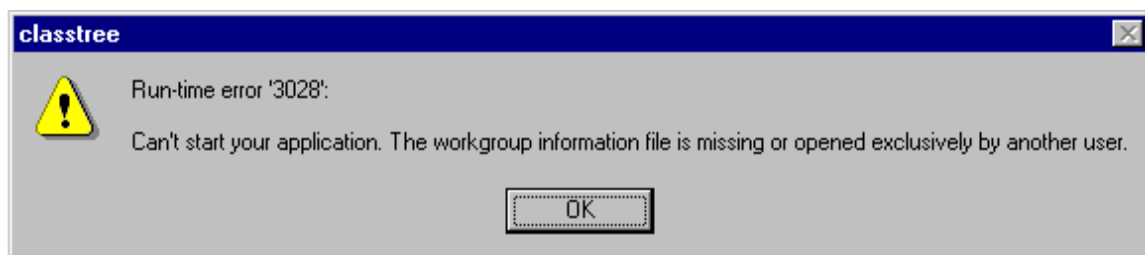
Go to the Control Panel and select 32-bit ODBC. Find the Data Source Name (DSN) 'SCAS Crime Database' and press the Configure button. Check the Login Name and Password under the Advanced options DSN. The Login Name is 'ArcViewTasks' and the password is 'base.ball'



Rename the View to 'SCAS View'. The view with the crime analysis buttons should have the same name as the global variable \_MainViewName.

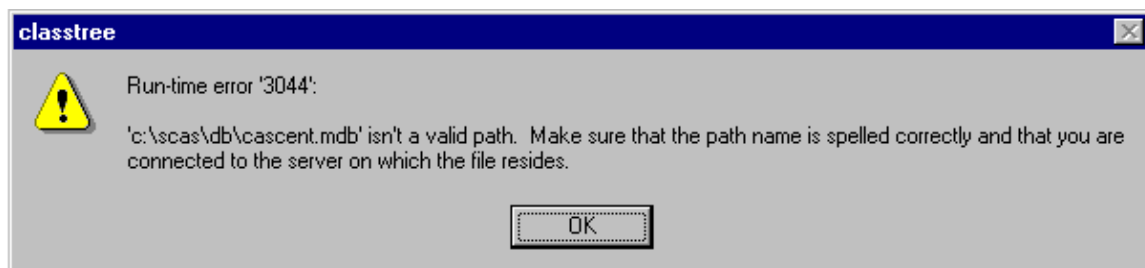


Check the system environment variable for SCASHOME. Open a DOS window and type 'SET'. The following line should appear: 'SET SCASHOME=c:\scas'. If SCASHOME is not set to the location of SCAS.APR then edit the file 'autoexec.bat'. NOTE: Do not leave any blank spaces before or after the equal sign. After you have saved the file reboot the computer in order for the changes to take place.



Check the system environment variable for SYSDB. Open a DOS window and type 'SET'. The following line should appear: 'SET SYSDB=c:\scas\database\cascent.mdb'. Modify the file Autoexec.bat to change the system environment setting. . NOTE: Do not leave any blank spaces before or after the equal sign. Reboot the computer for the changes to take place.

Also, check the file permissions on cascent.mdb and system.mda.



Check the system environment variable for SCASDB. Open a DOS window and type 'SET'. The following line should appear: 'SET SCASDB=c:\scas\database\system.mda'. Modify the file Autoexec.bat to change the system environment setting. NOTE: Do not leave any blank spaces before or after the equal sign. Reboot the computer for the changes to take place.